



2018 Red and White Clover Grazing Tolerance Report

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Introduction

Red clover (*Trifolium pratense* L.) is a high-quality, short-lived perennial legume that is used in mixed or pure stands for pasture, hay, silage, soil improvement, and wildlife habitat. This species is adapted to a wide range of climatic and soil conditions. Stands of improved varieties are generally productive for two and a half to three years, with the highest yields occurring in the year following establishment. Red clover is used primarily as a renovation legume for grass pastures. It is a dominant forage legume in Kentucky because it is relatively easy to establish and has high forage quality, high yield, and animal acceptance.

White clover (*Trifolium repens* L.) is a low-growing, perennial pasture legume with white flowers. It differs from red clover in that the stems (stolons) grow along the surface of the soil and can form adventitious roots that may lead to the development of new plants. Three types of white clover grow in Kentucky: Dutch, intermediate, and ladino. Dutch white clover, sometimes called common, naturally occurs in many Kentucky pastures and even lawns. It is generally long lived and reseeds readily, but its small leaves and low growth habit result in low forage yield. The intermediate type is a cross between ladino and Dutch white clover and has been developed to give higher yields than the Dutch type and to persist better than the ladino type under pasture or frequent grazing conditions. Ladino white clover has larger leaves and taller growth than the intermediate and Dutch types and is the highest yielding of the three white clover types.

This report summarizes research on the grazing tolerance of clover varieties when subjected to continuous grazing pressure. Table 10 shows a summary of all white clover varieties tested in Kentucky during the last 15 years. Due to minimal stands remaining after two years of grazing, a summary table for red clover is not included in this report. Go to the UK Forage

Extension website, at forages.ca.uky.edu, to obtain electronic versions of all forage variety testing reports from Kentucky and surrounding states and a large number of other forage publications.

Important Selection Considerations

Local adaptation and persistence. The variety should be adapted to Kentucky as indicated by superior performance across years and locations in replicated yield trials such as those reported in this publication. High-yielding varieties are generally also those varieties that are the most persistent. Improved red clover generally produces measurable yields for 2.5 to 3 years, with the year of establishment considered as the first year. The highest yields occur in the year following establishment. White clover generally persists longer than red clover, particularly in wet seasons and has the ability to reseed even

Table 1. Temperature and rainfall at Lexington, Kentucky in 2015, 2016, 2017, and 2018.

| | 2015 | | | | 2016 | | | | 2017 | | | | 2018 ² | | | |
|-------|------|------------------|----------|--------|------|-----|----------|--------|------|-----|----------|--------|-------------------|-----|----------|--------|
| | Temp | | Rainfall | | Temp | | Rainfall | | Temp | | Rainfall | | Temp | | Rainfall | |
| | °F | DEP ¹ | IN | DEP | °F | DEP | IN | DEP | °F | DEP | IN | DEP | °F | DEP | IN | DEP |
| JAN | 32 | +1 | 2.17 | -0.69 | 32 | +1 | 0.80 | -2.06 | 40 | +9 | 6.81 | +3.95 | 31 | 0 | 2.01 | -0.85 |
| FEB | 26 | -9 | 3.08 | -0.13 | 38 | +3 | 6.09 | +2.88 | 47 | +12 | 4.46 | +1.25 | 45 | +10 | 9.77 | +6.56 |
| MAR | 45 | +1 | 7.34 | +2.94 | 52 | +8 | 4.07 | -0.33 | 48 | +4 | 3.34 | -1.06 | 42 | -2 | 5.16 | +0.76 |
| APR | 57 | +2 | 13.19 | +9.31 | 57 | +2 | 3.97 | +0.09 | 62 | +7 | 4.17 | +0.29 | 50 | -5 | 5.52 | +1.64 |
| MAY | 69 | +5 | 3.02 | -1.45 | 64 | 0 | 9.17 | +4.70 | 66 | +2 | 7.74 | +3.27 | 73 | +9 | 8.39 | +3.92 |
| JUN | 75 | +3 | 8.20 | +4.54 | 76 | +4 | 5.09 | +1.43 | 73 | +1 | 7.68 | +4.02 | 76 | +4 | 6.42 | +2.76 |
| JUL | 77 | +1 | 10.22 | +5.22 | 79 | +3 | 7.43 | +2.43 | 76 | 0 | 4.49 | -0.51 | 77 | +1 | 6.15 | +1.15 |
| AUG | 74 | -1 | 3.49 | -0.44 | 79 | +4 | 4.37 | +0.44 | 74 | -1 | 6.66 | +2.73 | 77 | +2 | 6.45 | +2.52 |
| SEP | 72 | +4 | 3.49 | +0.29 | 74 | +6 | 2.18 | -1.02 | 69 | +1 | 4.72 | +1.52 | 74 | +6 | 12.88 | +9.68 |
| OCT | 59 | +2 | 2.78 | +0.21 | 64 | +7 | 0.37 | -2.20 | 60 | +3 | 6.06 | +3.49 | 59 | +2 | 6.54 | +3.97 |
| NOV | 51 | +6 | 3.72 | +0.33 | 51 | +6 | 1.94 | -1.45 | 47 | +2 | 3.09 | -0.30 | | | | |
| DEC | 49 | +13 | 8.42 | +4.44 | 37 | +1 | 9.4 | +5.42 | 35 | -1 | 2.66 | -1.32 | | | | |
| Total | | | 69.12 | +24.57 | | | 54.88 | +10.33 | | | 61.88 | +17.33 | | | 69.29 | +32.11 |

¹ DEP is departure from the long-term average.

² 2018 data is for the ten months through October.

Table 2. Seedling vigor and stand persistence of red clover varieties sown September 8, 2016, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Seedling Vigor ¹ Oct 4, 2016 | Percent Stand | | | | |
|--|--|---------------|--------|--------|--------|--------|
| | | 2016 | 2017 | | 2018 | |
| | | Oct 4 | Mar 15 | Oct 11 | Mar 15 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | | | |
| Freedom! | 4.8 | 100 | 93 | 75 | 43 | 16* |
| Kenland | 4.9 | 99 | 97 | 65 | 56 | 13* |
| SS0303RCG | 4.9 | 100 | 97 | 90 | 80 | 11* |
| Experimental Varieties | | | | | | |
| GA9908 | 4.8 | 100 | 89 | 81 | 58 | 10* |
| Mean | 4.9 | 100 | 94 | 78 | 59 | 12 |
| CV,% | 5.8 | 1 | 4 | 13 | 27 | 59 |
| LSD,0.05 | 0.3 | 1 | 5 | 13 | 19 | 9 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

under grazing. Refer to the 2018 Red and White Clover Report (PR-744) (or previous years if needed) for yield data on specific varieties of interest.

Seed quality. Buy premium-quality seed that is high in germination and purity and free from weed seed. Buy certified seed or proprietary seed of an improved variety. An improved variety is one that has performed well in independent trials, such as those reported in this publication. Other information on the label will include the test date (which must be within the previous nine months), the level of germination, and the percentage of other crop and weed seed. Order seed well in advance of planting time to assure that it will be available when needed.

Description of the Tests

Red clover (fall of 2016 and 2017) and white clover (fall of 2014, 2015, 2016, and 2017) tests for grazing were established in Lexington. Soils at the test site are well-drained silt loams and are well suited to clover production. Plots were 5 feet by 15 feet in a randomized complete block design with each variety replicated six times.

Red clover was seeded at the rate of 12 pounds per acre and white clover at 3 pounds per acre into a prepared seedbed using a disk drill. All seed lots were inoculated prior to planting. Plots were grazed continuously beginning the spring after fall seeding. In general, plots were grazed from mid-May to mid-September to a height of 1 to 3 inches. Supplemental hay was fed during periods of slowest growth.

Visual ratings of percent stand were made in the fall several weeks after the cattle were removed to check stand survival after the grazing season. Ratings were made in the spring prior to grazing to check on winter survival and spring growth. Since trials were seeded in rows, persistence ratings were based on

Table 3. Seedling vigor and stand persistence of red clover varieties sown September 9, 2017, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Seedling Vigor ¹ Oct 11, 2017 | Percent Stand | | |
|--|---|---------------|--------|--------|
| | | 2017 | | 2018 |
| | | Oct 11 | Mar 14 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | |
| Kenland | 4.9 | 100 | 100 | 65* |
| SS0303RCG | 4.9 | 100 | 99 | 65* |
| Gallant | 4.7 | 100 | 99 | 47 |
| Freedom! | 5.0 | 100 | 99 | 45 |
| Experimental Varieties | | | | |
| RC0705G | 4.8 | 100 | 99 | 81* |
| GA1402 | 4.5 | 100 | 97 | 58 |
| GA9908 | 5.0 | 100 | 97 | 53 |
| GATPCP | 4.7 | 100 | 99 | 52 |
| GA1403 | 3.0 | 97 | 97 | 51 |
| GA1401 | 4.9 | 100 | 97 | 47 |
| Mean | 4.6 | 100 | 98 | 56 |
| CV,% | 8.2 | 1 | 2 | 30 |
| LSD,0.05 | 0.4 | 1 | 2 | 19 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

density within a row and not on total ground cover. Fertilizers (lime, P, K, and boron) were applied according to University of Kentucky recommendations.

Results and Discussion

Weather data for Lexington is presented in Table 1.

Data on percent stand are presented in Tables 2 through 7. Statistical analyses were performed on these data to determine if the apparent differences are truly due to variety or just due to chance. Varieties not significantly different from the highest

Table 4. Stand persistence of white clover varieties sown September 9, 2014, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Percent Stand | | | | | | | | |
|--|---------------|-------|--------|--------|--------|--------|--------|--------|--------|
| | 2014 | 2015 | | 2016 | | 2017 | | 2018 | |
| | Nov 3 | Apr 6 | Oct 30 | Mar 24 | Oct 17 | Mar 22 | Oct 19 | Mar 20 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | | | | | | |
| Durana | 83 | 91 | 91 | 86 | 69 | 48 | 64 | 59 | 65* |
| Seminole | 93 | 87 | 87 | 78 | 53 | 43 | 48 | 47 | 62* |
| Canterbury | 97 | 90 | 90 | 72 | 68 | 48 | 53 | 43 | 58* |
| Will | 94 | 86 | 86 | 88 | 66 | 57 | 63 | 54 | 58* |
| Kopu II | 96 | 93 | 93 | 87 | 58 | 43 | 53 | 47 | 55 |
| Patriot | 87 | 93 | 93 | 90 | 78 | 53 | 62 | 53 | 55 |
| Alice | 91 | 92 | 92 | 85 | 53 | 35 | 53 | 47 | 52 |
| RegalGraze | 93 | 93 | 93 | 81 | 65 | 51 | 58 | 50 | 50 |
| Renovation | 90 | 92 | 92 | 89 | 73 | 50 | 57 | 43 | 45 |
| Experimental Varieties | | | | | | | | | |
| GA21160 | 92 | 88 | 88 | 88 | 68 | 50 | 68 | 60 | 70* |
| B-12.1216 | 90 | 93 | 93 | 91 | 71 | 45 | 52 | 45 | 65* |
| PPG-TR101 | 72 | 88 | 88 | 89 | 68 | 45 | 66 | 58 | 65* |
| SSS-SH1 | 84 | 91 | 91 | 88 | 65 | 50 | 65 | 61 | 63* |
| GA-178 | 94 | 90 | 90 | 88 | 70 | 47 | 60 | 53 | 58* |
| VS-41730 | 94 | 77 | 77 | 76 | 53 | 42 | 50 | 43 | 58* |
| NFWC04-29 | 94 | 94 | 94 | 87 | 70 | 47 | 50 | 40 | 52 |
| Mean | 90 | 90 | 90 | 85 | 65 | 47 | 58 | 50 | 58 |
| CV,% | 9 | 8 | 8 | 10 | 21 | 31 | 24 | 29 | 19 |
| LSD,0.05 | 9 | 8 | 8 | 10 | 16 | 17 | 16 | 17 | 13 |

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

numerical value in a column are marked with one asterisk (*). To determine if two varieties are truly different, compare the difference between the two varieties to the least significant difference (LSD) at the bottom of the column. If the difference is equal to or greater than the LSD, the varieties are truly different when grown under the conditions at a given location. The coefficient of variation (CV), which is a measure of the variability of the data, is included for each column of means. Low variability is desirable, and increased variability within a study results in higher CVs and larger LSDs.

Tables 8 and 9 summarize information about distributors and persistence across years for all red and white clover varieties included in these tests.

Table 10 is a summary of stand persistence data from 2002 to 2018 of commercial white clover varieties that have been entered in the Kentucky trials. The data are listed as a percentage of the mean of the commercial varieties entered in each specific trial. In other words, the mean for each trial is 100 percent—varieties with percentages over 100 persisted better than average, and varieties with percentages less than 100 persisted less than average. Direct, statistical comparisons of varieties cannot be made using the Table 10 summary, but these comparisons do help to identify varieties for further consideration. Varieties that have performed better than average over many years have very stable performance; others may have performed very well in wet years or on particular soil types. These details may influence variety choice, and the information can be found in the yearly reports. See footnote in Table 10 to determine the yearly report that should be referenced. Due to minimal stands remaining after two years of grazing, a summary table for red clover is not included in this report.

Summary

Although these varieties were abused during the growing season, they were allowed to rest and regrow after September 15 to prepare for winter. Research has shown that abusive grazing tests are a good way to sort out differences in grazing tolerance between varieties in a relatively short period of time.

This information should be used along with yield and pest resistance information in selecting the best clover variety for each individual use. It is not recommended that clover be continuously grazed as was done in this trial. While

Table 5. Seedling vigor and stand persistence of white clover varieties sown September 3, 2015, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Seedling Vigor ¹ Oct 21, 2015 | Percent Stand | | | | | | |
|--|---|---------------|--------|-------|--------|--------|--------|--------|
| | | 2015 | 2016 | | 2017 | | 2018 | |
| | | Dec 11 | Mar 24 | Oct 5 | Mar 22 | Oct 12 | Mar 15 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | | | | | |
| Patriot | 2.0 | 88 | 90 | 94 | 94 | 93 | 82 | 80* |
| Durana | 3.2 | 91 | 91 | 95 | 95 | 90 | 81 | 78* |
| Kopu II | 4.5 | 96 | 95 | 88 | 87 | 84 | 73 | 77* |
| Will | 4.2 | 96 | 98 | 93 | 92 | 87 | 82 | 73* |
| Neches | 4.0 | 95 | 95 | 96 | 94 | 88 | 78 | 72* |
| Alice | 3.7 | 77 | 94 | 94 | 91 | 85 | 78 | 70 |
| Renovation | 1.2 | 71 | 68 | 78 | 77 | 72 | 65 | 66 |
| RegalGraze | 4.3 | 97 | 97 | 87 | 83 | 74 | 60 | 62 |
| Experimental Varieties | | | | | | | | |
| BARTRALRG | 3.9 | 93 | 95 | 92 | 88 | 83 | 76 | 71* |
| GA-178 | 2.3 | 90 | 90 | 87 | 88 | 79 | 69 | 63 |
| Mean | 3.3 | 89 | 91 | 90 | 89 | 83 | 74 | 71 |
| CV,% | 26.7 | 14 | 8 | 6 | 7 | 6 | 12 | 11 |
| LSD,0.05 | 1.0 | 15 | 8 | 7 | 7 | 6 | 10 | 9 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 6. Seedling vigor and stand persistence of white clover varieties sown September 8, 2016, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Seedling Vigor ¹ Oct 4, 2016 | Percent Stand | | | | |
|--|--|---------------|--------|--------|--------|--------|
| | | 2016 | 2017 | | 2018 | |
| | | Oct 4 | Mar 15 | Oct 11 | Mar 15 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | | | |
| Durana | 3.5 | 97 | 95 | 97 | 97 | 99* |
| Patriot | 3.6 | 97 | 97 | 98 | 98 | 97* |
| Will | 4.5 | 100 | 98 | 94 | 94 | 94* |
| Kopu II | 4.8 | 100 | 89 | 94 | 94 | 92 |
| Alice | 3.5 | 96 | 94 | 95 | 94 | 87 |
| RegalGraze | 5.0 | 100 | 95 | 90 | 88 | 83 |
| Mean | 4.2 | 98 | 95 | 95 | 94 | 92 |
| CV,% | 11.0 | 2 | 2 | 4 | 4 | 5 |
| LSD,0.05 | 1.0 | 2 | 3 | 4 | 4 | 6 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

Table 7. Seedling vigor and stand persistence of white clover varieties sown September 9, 2017, in a cattle grazing tolerance study at Lexington, Kentucky.

| Variety | Seedling Vigor ¹ Oct 11, 2017 | Percent Stand | | |
|--|---|---------------|--------|--------|
| | | 2017 | 2018 | |
| | | Oct 11 | Mar 14 | Sep 26 |
| Commercial Varieties-Available for Farm Use | | | | |
| Kakariki | 4.7 | 99 | 98 | 97* |
| Durana | 3.8 | 97 | 97 | 97* |
| Alice | 3.9 | 96 | 96 | 97* |
| Patriot | 3.2 | 95 | 95 | 96* |
| Renovation | 3.6 | 96 | 95 | 96* |
| Will | 4.3 | 97 | 98 | 95* |
| RegalGraze | 4.8 | 99 | 99 | 92 |
| Experimental Varieties | | | | |
| NFWC04-29 | 3.7 | 97 | 97 | 95* |
| Mean | 4.0 | 97 | 97 | 95 |
| CV,% | 18.5 | 2 | 2 | 3 |
| LSD,0.05 | 0.9 | 2 | 2 | 4 |

¹ Vigor score based on a scale of 1 to 5 with 5 being the most vigorous seedling growth.

*Not significantly different from the highest numerical value in the column, based on the 0.05 LSD.

several varieties expressed tolerance to the level of grazing pressure used in these trials, overgrazing greatly reduces yield and therefore profitability of these clovers.

Good management for maximum life from grazing clover would include:

- Allowing clover to become completely established before grazing
- Using rotational grazing where animals harvest available forage in 7 days or less followed by resting for 28 days before regrazing; less time is required for white clover
- Adding any needed fertilizer and lime

- Removing grazing livestock from clover fields from mid-September to November 1 to replenish root reserves for winter survival, especially important with red clover

About the Authors

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Table 8. Summary of persistence of red clover varieties under heavy grazing pressure across years at Lexington, Kentucky.

| Variety | Proprietor/KY Distributor | 2016 ¹ | | | | 2017 | |
|--|---------------------------|-------------------|----------------|------|-----|------|-----|
| | | Mar | Oct | Mar | Sep | Mar | Sep |
| | | 2017 ² | | 2018 | | 2018 | |
| Commercial Varieties-Available for Farm Use | | | | | | | |
| Freedom! | Barenbrug USA | * | x ³ | x | * | * | x |
| Gallant | Turner Seed | | | | | * | x |
| Kenland (certified) | Public | * | x | x | * | * | * |
| SS-0303RCG | Southern States | * | * | * | * | * | * |
| Experimental Varieties | | | | | | | |
| GA1401 | Univ. of Georgia | | | | | x | x |
| GA1402 | Univ. of Georgia | | | | | x | x |
| GA1403 | Univ. of Georgia | | | | | x | x |
| GA9908 | Univ. of Georgia | x | * | x | * | x | x |
| GATPCP | Univ. of Georgia | | | | | * | x |
| RC0705G | Hood River Seeds | | | | | * | * |

¹ Establishment year.

² Date of rating of percent stand.

³ "x" in the block indicates the variety was in the test but the stand survival was significantly less than the most persistent red clover variety. An open block indicates the variety was not in the test.

*Not significantly different from the most persistent red clover variety.

Table 9. Summary of persistence of white clover varieties under heavy grazing pressure across years at Lexington, Kentucky.

| Variety | Type | Proprietor/KY Distributor | 2014 ¹ | | | | | | | | 2015 | | | | | 2016 | | | | 2017 | | | | |
|--|--------------|---------------------------|-------------------|-----|------|----------------|------|-----|------|-----|------|-----|------|-----|------|------|------|-----|------|------|------|-----|---|---|
| | | | Apr | Oct | Mar | Oct | Mar | Oct | Mar | Sep | Mar | Oct | Mar | Oct | Mar | Sep | Mar | Oct | Mar | Sep | Mar | Sep | | |
| | | | 2015 ² | | 2016 | | 2017 | | 2018 | | 2016 | | 2017 | | 2018 | | 2017 | | 2018 | | 2018 | | | |
| Commercial Varieties-Available for Farm Use | | | | | | | | | | | | | | | | | | | | | | | | |
| Alice | Intermediate | Barenbrug | * | * | * | x ³ | * | * | * | * | x | * | * | * | x | * | x | x | * | * | x | * | * | |
| Canterbury | Dutch | Allied Seed | * | * | x | * | * | * | x | * | | | | | | | | | | | | | | |
| Durana | Intermediate | Pennington Seed | x | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | |
| Kakariki | | | | | | | | | | | | | | | | | | | | | | * | * | |
| Kopu II | Intermediate | Ampac Seed | * | * | * | x | * | * | * | x | * | x | * | x | * | * | x | * | * | x | * | * | * | |
| Patriot | Intermediate | Pennington Seed | * | * | * | * | * | * | * | x | * | * | * | * | * | * | * | * | * | * | * | * | x | * |
| Neches | Intermediate | Barenbrug | | | | | | | | | * | * | * | * | * | * | | | | | | | | |
| Regal Graze | Ladino | Cal/West Seeds | * | * | * | * | * | * | * | x | * | x | x | x | x | x | x | * | x | x | x | * | x | |
| Renovation | Intermediate | Smith Seed | * | * | * | * | * | * | x | x | x | x | x | x | x | x | | | | | | x | * | |
| Seminole | Ladino | Saddle Butte/Caudill Seed | * | * | x | x | * | x | * | * | | | | | | | | | | | | | | |
| Will | Ladino | Allied Seed | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | |
| Experimental Varieties | | | | | | | | | | | | | | | | | | | | | | | | |
| B-12.1216 | — | Blue Moon Farms | * | * | * | * | * | * | * | * | | | | | | | | | | | | | | |
| BARTRALRG | — | Barenbrug | | | | | | | | | * | * | * | x | * | * | | | | | | | | |
| GA 178 | — | Smith Seed | * | * | * | * | * | * | * | * | x | * | x | x | x | | | | | | | | | |
| GA 21160 | — | Univ of Georgia | * | * | * | * | * | * | * | * | | | | | | | | | | | | | | |
| NFWC04-29 | — | Noble Foundation | * | * | * | * | * | x | * | x | | | | | | | | | | | | * | * | |
| PPG-TR101 | — | Mountain View Seeds | x | * | * | * | * | * | * | * | | | | | | | | | | | | | | |
| SSS-SH1 | Ladino | Smith Seed | x | * | * | * | * | * | * | * | | | | | | | | | | | | | | |
| VS-41730 | Ladino | Turner Seed | x | x | x | x | * | x | x | * | | | | | | | | | | | | | | |

¹ Establishment year.

² Date of rating of percent stand.

³ "x" in the block indicates the variety was in the test but the stand survival was significantly less than the most persistent white clover variety. An open block indicates the variety was not in the test.

*Not significantly different from the most persistent white clover variety.

Table 10. Summary of 2002-2018 Kentucky white clover grazing tolerance trials in Lexington (stand persistence shown as a percent of the mean of the commercial varieties in the test).

| Variety | Type | Proprietor | 2002 ^{1,2} | | 2004 | | 2006 ³ | | 2008 ⁴ | | 2009 | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | | 2015 | | 2016 | | Mean ⁵ (#trials) |
|-------------|--------------|-----------------------|---------------------|-----|------|-----|-------------------|-----|-------------------|-----|------|-----|------|-----|------|-----|---------|---------|------|-----|------|-----|------|-----|------|-----|--------------------------------|
| | | | 2yr ⁶ | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | 2yr | 4yr | |
| Alice | Intermediate | Barenbrug USA | | 59 | 98 | | | | | | | | | | | | | | | | 93 | | | | | | 88(5) |
| Barblanca | Intermediate | Barenbrug USA | | 118 | 91 | 151 | | | | | | | | | | | | | | | | | | | | | 120(3) |
| Canterbury | Dutch | Allied Seed | | | | | | | | | | | | | | | | 51 | | | | | | | | | 72(2) |
| Colt | Intermediate | Seed Research of OR | | 114 | 134 | 122 | | | | | | | | | | | | | | | | | | | | | 123(3) |
| Crescendo | Ladino | Cal/West | 84 | | | 72 | | | | | | | | | | | | | | | | | | | | | 78(2) |
| Durana | Intermediate | Pennington | | 83 | 105 | 103 | | | 115 | 102 | 107 | 126 | 86 | 81 | 113 | 108 | 108 | 103(12) | | | | | | | | | |
| GWC-AST10 | - | Ampac Seed | | | | | | | | | 77 | | | | | | | | | | | | | | | | - |
| Insight | Ladino | Allied Seed | | | | 77 | | | | | | | | | | | | | | | | | | | | | - |
| Ivory | Intermediate | DLF Pickseed | 132 | 142 | | | | | | | | | | | | | | | | | | | | | | | 137(2) |
| Ivory II | Intermediate | DLF Pickseed | | | | | | 102 | | | | | | | | | | | | | | | | | | | - |
| Kopu II | Intermediate | Ampac Seed | | | 77 | 122 | 96 | | 93 | 113 | 112 | 86 | 106 | 93 | 107 | 100 | 100(11) | | | | | | | | | | 94(2) |
| KY Select | Intermediate | KY Agr Ex. Sta. | | | | | | | 105 | | | | | | | | | | | | | | | | | | - |
| Neches | - | Barenbrug USA | | | | | | | | | | | | | | | | | | | | | | | | | - |
| Patriot | Intermediate | Pennington | | 110 | 137 | 122 | | | 100 | 111 | 110 | 123 | 102 | 132 | 109 | 111 | 105 | 114(12) | | | | | | | | | |
| Pinnacle | Ladino | Allied Seed | | | | | | | | | | 87 | | | | | | | | | | | | | | | - |
| Rampart | - | Oregro Seeds | | | | | | | 90 | | | | | | | | | | | | | | | | | | - |
| Regal | Ladino | Public | 92 | | | 54 | | | 93 | | 103 | | | | | | | | | | | | | | | | 80(5) |
| Regal Graze | Ladino | Cal/West | | | 84 | 87 | 105 | 90 | 90 | 87 | 93 | 72 | 94 | 81 | 102 | 86 | 90 | 89(12) | | | | | | | | | |
| Renovation | Intermediate | Smith Seed | | | | | | | | | | | | | | | | | | | | | | | | | 98(3) |
| Resolute | Intermediate | Southern States | | | | 101 | 106 | | | | | 65 | | | | | | | | | | | | | | | 91(3) |
| Seminole | Ladino | Saddle Butte Ag. Inc. | | 75 | | 97 | 91 | | | | | | | | | | | | | | | | | | | | 97(5) |
| Tillman II | Ladino | Caudill Seed | 92 | | | | | | | | | | | | | | | | | | | | | | | | - |
| WBDX | Dutch | Saddle Butte Ag. Inc. | | | | | | | | | 70 | | | | | | | | | | | | | | | | - |
| Willi | Ladino | Allied Seed | | | 117 | 87 | 107 | 105 | 108 | 143 | 115 | 133 | 157 | 111 | 101 | 102 | 116(12) | | | | | | | | | | |

¹ Year trial was established.

² Use this summary table as a guide in making variety decisions, but refer to specific yearly reports to determine statistical differences in stand persistence between varieties. To find actual persistence ratings, look in the yearly report for the final year of each specific test. For example, the trial planted in 2010 was grazed for 4 years so the final persistence report would be "2014 Red and White Clover Grazing Tolerance Report" archived in the KY Forage website at <forages.ca.uky.edu>.

³ This trial was planted in the spring of 2006 due to poor establishment of the fall 2005 planting.

⁴ This trial was planted in the spring of 2008 due to poor establishment of the fall 2007 planting.

⁵ Mean only presented when respective variety was included in two or more trials.

⁶ Number of years of data.



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